

### Abstract

The invention relates to a process and a device for parallel fractionating a multiplicity of individual samples (29) within a 3-dimensional separation medium (6), with the subsequent process steps being carried out:

A first space (2) which extends essentially across all three space coordinates contains the separation medium (6). A multiplicity of individual samples (29) is arranged close to an interface of the first space (2), with the individual samples (29) being arranged essentially in a planar fashion, i.e. their particular center-of-gravity positions are described by two coordinates. Under the influence of one or more physical parameters, the individual samples (29) are able to migrate essentially perpendicularly to the area of their application through the separation medium (6), and are fractionated in the process according to one or more of their properties. Suitable physical parameters are, for example, electric forces (electrophoresis), gravity, diffusion, pressure and concentration gradients and also osmosis or centrifugal forces. The individual samples (29) are detected in selected regions (8) inside or outside the separation medium (6) during their migration (online detection). As an alternative to online detection, data may be received in a 3D manner, after the migration has finished. To this end, an appropriate 3D image-taking process may be used. In the simplest case, the separation medium (6) is cut into disks which are then evaluated by means of a 2D receiving process. In this case, the fractions of the samples are also preparatively accessible. In addition to or alternatively to image-taking, a fraction collector may be attached to an interface of the separation medium (6).

(Fig. 2)